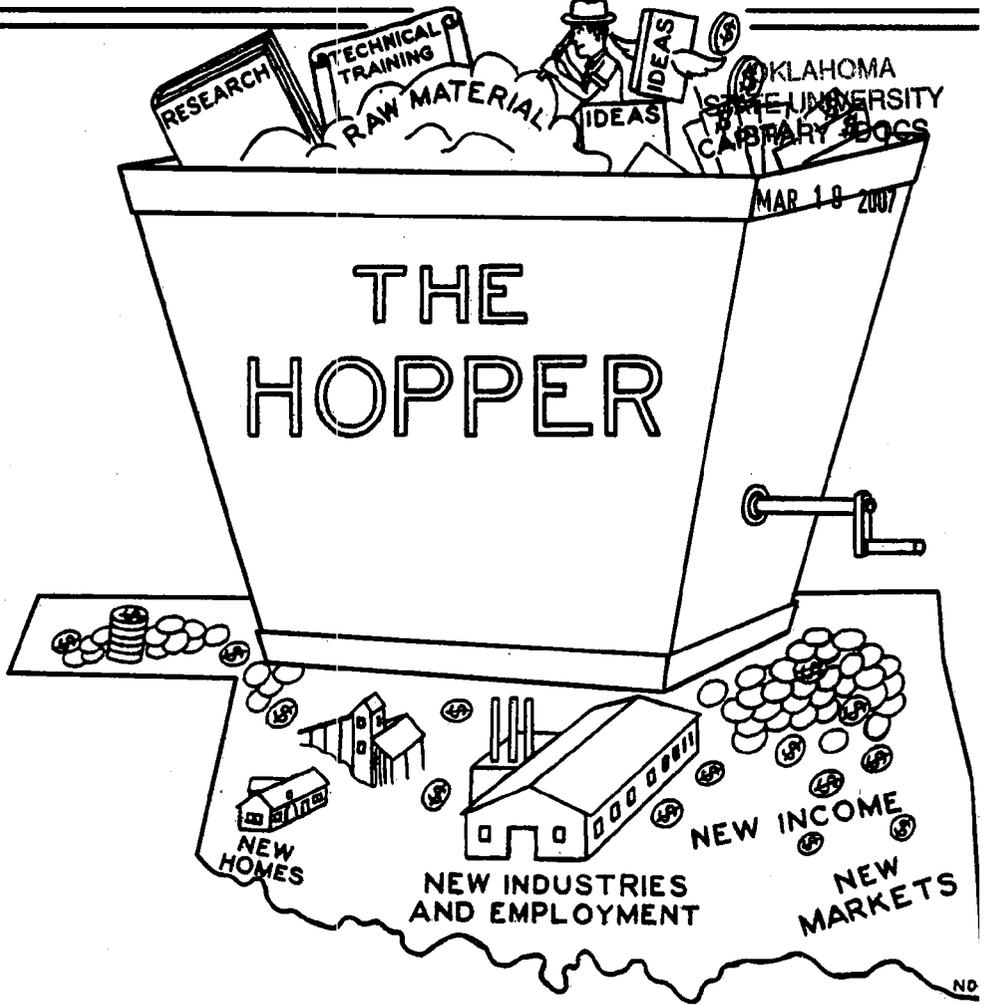


OKLAHOMA MINERAL INDUSTRIES CONFERENCE



PUBLISHED IN THE OFFICE OF THE  
OKLAHOMA GEOLOGICAL SURVEY  
NORMAN, OKLA.

### NEW PUBLICATION LIST

A new price list of publications of the Oklahoma Geological Survey has been printed and is ready for distribution. A copy may be obtained on request to the Director, Oklahoma Geological Survey, Norman, Oklahoma.

The new price list contains a complete listing of all reports that have been issued by the Survey, including those that are now out of print. Also included are those reports published by other organizations on which the Survey cooperated.

INDUSTRIAL AND MINERAL CONFERENCE  
TO BE HELD ON UNIVERSITY CAMPUS

The 1949 Oklahoma Industrial and Mineral Industries Conference will be held at the University of Oklahoma, Norman, Friday and Saturday, September 30 and October 1. Sponsors are the Geological Survey and the University of Oklahoma. Features of the meeting will include an opening luncheon, a half-day technical session, banquet and entertainment, business meeting, tour of the University, barbecue at the Geological Survey's research laboratory, and the O.U.-Texas A. and M. football game.

Speakers will discuss further manufacturing possibilities from Oklahoma minerals, factors affecting the location of industries, favorable factors in Oklahoma, unfavorable factors in Oklahoma and their remedies.

It is planned to make a wire recording of the proceedings as the basis for preparation of a brochure which, when edited and printed, will be furnished to program committees of all civic groups in Oklahoma. The brochure will be prepared for use as a hand-book, especially for smaller communities.

Registration and Friday's luncheon and technical meeting will be at the Extension Study Center, North Campus. Comfortable housing is available at the Center, where there are 104 double rooms which can be reserved by Conference members. Other accommodations in Norman are Norman Courts, Norman Hotel, and University Hotel. In addition, Oklahoma City is only 20 miles away, and there are several large tourist courts between the two cities.

A block of tickets for the O.U.-Texas A. & M. football game has been set aside for Conference members, and can be purchased at the time of registration, the first day of the meeting.

## THE SOUTHWEST AND INDUSTRIAL TRENDS

By

Marvin Hurley

Manager, Industrial Department  
Houston Chamber of Commerce

(Address presented before Oklahoma Chamber of  
Commerce Managers, Oklahoma City, April 30, 1949)

There are times in the history of any people when greatness is demanded of them--when they will either achieve greatness or lose themselves in the competition of national and world influences. This is such a time in the history of Oklahoma. We are the beneficiaries of current development trends which, through sound purpose and dynamic efforts, can be fostered to the lasting benefit of this region. As public spirited citizens, you have a vital part to play in the future of your city and area; a future that requires all of the resources of greatness you possess.

By and large the Southwest has followed the general pattern of our national development. Early in our history, the resources of these states were acquired and apportioned, and their utilization -- along with their exhaustion -- began. Under a hunting economy, the area could support but a sparse population. With the occupation of more areas by white men, ranges and forests were turned into farms and ranches, and the land was able to support more people. Roads and railroads were built, and more people flocked in. With the further development of the agricultural and mining economy, the number of villages and towns increased. Then the development of industry began, making it possible for more people to live in less space. Then more villages became towns, and more towns became market and production centers. This has been the pattern for Oklahoma.

Industrialists in ever-increasing measure have been learning the advantages of combining our great reserves of manpower with our resources of natural wealth. In increasing measure, the products of our farms and forests and mines are being processed and fabricated here at home to supply markets here and elsewhere. In increasing measure, the "value added by manufacture" is being retained here to give a higher standard of living to our people, to make its contributions to improvement of our roads and schools and churches, and to help provide that economic balance necessary for more stability, more security, and more growth.

To get ourselves oriented for this discussion, let us begin with five basic assumptions, which we may state briefly as follows:

1. Newer industry is decentralizing.
2. The trend of industrial expansion is south and west.
3. The movement of industry is from larger to smaller communities.
4. Most industrial plants are small.
5. Most industrial enterprises are started in the local community by local people with local capital.

Various pressures are at work to encourage the decentralization of more recent industrial growth. Some of the economic factors why industrial plants leave home and go to new locations are: new facilities for more efficient layout and improved production; lower taxes, power, labor, and transportation costs; adequate power, transportation, and labor supply; more favorable labor and legislative situation; location nearer to market or to raw materials; or for branch plant operations. In addi-

tion, national defense agencies, concerned by the possibilities of atomic warfare, are urging industry to disperse -- to scatter out. Lending agencies are giving thought to the risk factor in strategic locations. All these trends toward decentralization are significant. They influence further decentralization as markets grow up in new areas and as new pools of skilled labor are developed.

The New England, Middle Atlantic, and Great Lakes regions, which had 72 percent of all United States manufacturing jobs before the war, got only 55 percent of the new wartime plants built with private funds. And they are getting only 45 percent of the new postwar plants. In a dozen years, the nation will have boosted its factory capacity 50 percent, but the increase for the South and West will be almost 100 percent, while the Northeast regions will have gained only about one-third. In other words, the South and West are growing about three times as fast industrially as the older industrial regions.

The war gave a shot in the arm to America's changing industrial map, and the postwar industrial expansion is giving the trend of industry south and west another drive. At the same time, smaller communities are getting an increasing proportion of the new industrial plants. The National Industrial Conference Board, in its study of the "Decentralization of Industry" declares:

"There is a trend toward locating manufacturing plants in the smaller cities and towns. Cities and towns with 10,000 population are reported to be the most popular places for plants established from 1940 to 1947. Only one-third of the plants built or acquired since 1940 are in cities of 100,000 and over. For plants established prior to 1940, close to half were in cities of that size. On the other hand, almost 30 percent of the plants established

since 1940 are in towns of 10,000 or less, against only 20 percent of the plants built before 1940."

We are impressed by bigness, and we are inclined to think of industry in terms of great, sprawling plants. In 1939, however, only 3.2 percent of the nation's plants employed more than 251 people; 11.6 percent employed from 51 to 250; 12.8 percent from 21 to 50; and 72.4 percent employed 20 or less people. A survey made about that time also indicated that more than 80 percent of all industry begins in the local community. These facts should be kept in mind as we think in terms of a community industrial development program.

The reason for industrial development boils down to this simple formula -- jobs, plus wages equal purchasing power and community prosperity. The war years brought factory payrolls to many communities that had never reveled in this type of luxury before. It created a renewed, and more intense, desire within most communities for industrial growth.

The first requirement for a community development program is to have something to sell. It's a case of 90 percent having, and 10 percent selling what you have. Many communities have not industry because they have not anything in which industry is interested. Until they do something about it, they'll continue among the have-nots. Salesmanship may cover a multitude of ignorance, but it does not create industry unless factors are available to attract industry.

Obviously, adequate and accurate information about the community, and about its present and potential employment prospects, is the first essential of a community program for industrial development. Insofar as possible, this information should be gathered and organized by the local leaders themselves, with whatever help they can get from a

local college, the state university, state department of commerce and industry, or other such agencies. This gives local leaders an insight into the community that they would not get if they secured the services of some professional for the survey.

Next comes an analysis, on the basis of this survey, of the advantages of the area for specific types of industries. If an outside industry is to be persuaded to locate in the community or if local people are to create a new local industry within the community, they must have well-analyzed facts showing that location within the area is economically advantageous for such an industry. Most industries will locate where the economic factors are most favorable for operating at a profit. The sound industry will check local representations with great care. The basic factors on which information is usually required are: location of production materials, labor, sites, fuel, transportation, markets, distribution facilities, power, water, living conditions, laws and regulations, tax structure, and climate. The analysis of these factors may be set off against the requirements for certain industry groups to help determine the types of industries for which efforts should be made.

In actual experience, we find that about four-fifths of all industrial firms start right at home --local men, local money, setting up production to supply, at least at first, a local market. Expansion of existing industry means industrial growth just as surely as bringing in a new payroll from the outside.

Thus it is not always necessary to bring in industries in order to provide better employment opportunity. Frequently, it can be accomplished by the community extending cooperation to existing establishments, or by the local development of an industry to meet local needs, or by aiding local craftsmen to make the most of their productive

abilities. If such a small industry is managed by those with background of training and experience, if they have adequate capital and credit, know their markets and how to serve them, recognize their risks and how to meet them, their chances of success are good.

It is sometimes difficult to get people in the home community to trust themselves sufficiently, or their neighbors, to support a purely local enterprise. But eternal vigilance brings opportunity for just this. In Tulsa a few years ago, we learned that the Oklahoma Geological Survey had issued a report on the wool rock deposits of the state. A study of this showed some nearby sources. About the same time, an engineer from Kansas blew in with an idea for a new type of gas fired rock wool furnace. To round out the picture, a local manufacturer of insulation material made from the scrap of a fiberboard box plant advised us that he was interested in going into rock wool production because he had the market. Thus with the raw material, the know-how, and the market, we got the three together and soon had a successful rock wool plant.

In many respects, industrial development is a state of mind. Programs such as this that are designed to get local people more industrial conscious can lead to the creation of new local industry. Most big companies started small. They started in some local community because some local man, or men, had an idea and because they and their friends were willing to risk some capital on the development of the idea. Men with ideas are still greater community assets than any material resource. Many great industries started in a woodshed, a basement, a kitchen laboratory, or through some other humble beginning.

While the primary objective of any community industrial program is to increase local payrolls as soon as possible, it should give some thought to

more long range considerations. One of our troubles in the Southwest has been short-sighted policies on industrial development. In the final analysis, the future of industrial expansion in the Southwest, and in turn the industrial growth of our various communities, will depend upon three things:

First, new developments materialize through research. Our section of the country has been short on research. We've been exporting our research talent along with our raw materials. Spotted advances of importance have been made in industrial research, but these examples are but the beginning.

Second, education. Continued progress in the general advancement of educational levels as well as training of personnel for industrial jobs and training of producers to provide raw materials will contribute to our industrial growth.

Third, preservation of the American opportunity system of free competitive enterprise. Our country has pioneered world development in industrial know-how because of the system of incentives available under our system of government, economics and society.

Another thing we must realize in industrial development is in connection with the results of research. It is a thing that every industrial man faces from time to time in negotiations with men with ideas. As new processes, techniques, products or methods are developed, they must be measured against the yardstick of practical application.

In conclusion, the three phases of any community industrial development program are: to serve established industry, to promote new industry, and to help develop and maintain favorable industrial conditions. Industrial development is a field that requires constant study and regular revision of information.

## UNUSUAL FLUCTUATIONS IN RUSH SPRINGS WELLS

By Edwin W. Reed

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The following article published in the Water Resources Review, a monthly publication of the U. S. Geological Survey summarizing surface and ground water conditions throughout the United States and southern Canada, is based on observations made in the course of cooperative investigations of ground water in Oklahoma by the Oklahoma Geological Survey and the U. S. Geological Survey:

Relatively large and rapid fluctuations in water level apparently due to variations in barometric pressure and similar to those known to occur in many wells tapping confined (artesian) water, were recorded in a well near Rush Springs, Oklahoma, during the nights of March 25 and 26. The fluctuations occurred during a severe thunderstorm which passed over the State. The storm was accompanied by heavy rains, high winds, and tornadoes which did much damage in Texas and Oklahoma.

Atmospheric conditions were unsettled most of the 25th and were indicated by several small (0.04 to 0.18 foot) but rapid rises and declines in water level in the well. The net change for the day was a rise of 0.35 foot. At midnight the storm struck and the water level declined 0.44 foot, rose 0.84 foot, declined 0.50 foot, rose 0.43 foot, and then declined, all within half an hour. Unfortunately, the recorder pen then caught in the overlap of the chart and was thrown clear of the chart, stopping the record.

The well taps the Rush Springs sandstone which is fine-grained massive sandstone of low permeability. Water-table (nonartesian) conditions prevail, but the water level in the well reflects barometric variations because of the low permeability,

and the distance of the water table below the land surface (81 feet).

The barometric efficiency is not known for this well but in others in the same formation is more than 50 percent. Such a barometric efficiency would require a change in atmospheric pressure of more than 1 inch of mercury to cause the decline of 0.84 foot shown on the chart. Such a change can occur under tornadic conditions, as apparently was the case. Last year, somewhat similar fluctuations of lesser range occurred in another well in the Rush Springs sandstone when a tornado passed nearby.

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#### WATER LEVELS RISE IN OKLAHOMA PANHANDLE

The annual measurements of ground-water levels in about 60 wells in the Panhandle counties—Beaver, Texas, and Cimarron—were made about the middle of May, and again showed a general and widespread rise. The average reached a new high level that was 0.63 foot above the previous record set in May, 1948. New high averages were recorded in each of the three counties, the largest rise for the year being 0.83 foot in Beaver County. Since November 1938, the ground-water levels in the Panhandle have risen an average of 3.64 feet.

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#### FREIGHT RATE SOUGHT ON FLORIDA PHOSPHATE ROCK

A rate of \$7.41 a ton is sought on phosphate rock from Bartow, Florida, and points grouped with Bartow, to Pittsburgh, Kansas; Docket 48126, Southwestern Freight Bureau Docket. Pittsburgh is the site of a war-built ammonium nitrate plant.